



## MC10x series

### Fast Ethernet Media Converters

#### AT-MC101XL

TX to FX Fast Ethernet media converter with multi-mode ST fiber connectors

#### AT-MC102XL

TX to FX Fast Ethernet media converter with multi-mode SC fiber connectors

#### AT-MC103XL

TX to FX Fast Ethernet media converter with single-mode 15km SC fiber connectors

#### AT-MC103LH

TX to FX Fast Ethernet media converter with single-mode 40km SC fiber connectors

#### Fiber Connections

The Allied Telesis range of Fast Ethernet media converters provides a complete family of conversion devices, allowing users to extend the size of UTP networks with the use of fiber cabling. Supporting both SC and ST fiber connectors, these converters can be used to extend networks with up to 2km of multi-mode fiber or 40km of single-mode fiber.

#### Auto-Negotiation and MissingLink™

The MissingLink feature enables the fiber optic ports on the media converter to pass the 'Link' status of their connections to each other. When the media converter detects a problem with one of the ports, such as the loss of connection to an end-node, the media converter shuts down the connection to the other port, thus notifying the node that the connection has been lost.

#### Simple Installation

All the media converters feature auto MDI/MDI-X, allowing the converter to be connected to either a PC, hub or switch with a simple UTP cable. The media converters also allow the installer to test the integrity of fiber connection, by forcing the converters to communicate over the fiber cable. This 'Link Test' feature allows installers to check for cable faults without the need for expensive fiber optic test equipment.

#### Standalone or Rack-mounted

Each small media converter is powered by an external power supply unit for use in standalone applications. Where multiple media converters are being used, up to 12 standalone devices can be inserted into a low-cost rack-mount chassis, allowing all the converters to be powered by a single internal power supply. In critical applications, a second load sharing internal power supply can be installed into the rack-mount chassis.

#### Hassle Free Support

Allied Telesis Fast Ethernet media converters offer free technical support, ensuring trouble-free installation.

#### Key Features

- EnergyStar power adapters save customers a minimum of 20% power consumption\*
- Half and full-duplex operation
- Transparent to IEEE 802.1Q packets
- Rack-mountable using optional AT-MCR12, AT-TRAY4 or AT-TRAY1 chassis
- Wall-mountable using AT-WLMT
- Auto MDI/MDI-X
- MissingLink
- Link Test
- RoHS Compliant



\* Compared to previous models

Port Type (Connector)	Cable Distance	Optical Frequency	Launch Power (dBm)			Receive Power (dBm)		
			Max.	Avg.	Min.	Min. Sensitivity	Typical Sensitivity	Saturation
100FX MMF (2km)	2km	1310nm	-14.0	-16.8	-19.0	-31.8	-34.5	-14.0
100FX SMF (15km)	15km	1310nm	-8.0	-11.5	-15.0	-31.0	-31.0	-8.0
100FX SMF (40km)	40km	1310nm	0.0	-3.0	-5.0	-35.0	-38.0	0.0

## Link Test

The link test is a fast and easy way for you to test the connections between the media converter ports and the end-nodes that are connected to the ports. If a network problem occurs, you can perform a link test to determine which port is experiencing a problem, and be able to focus your troubleshooting efforts on the cable or end-node where the problem resides.

## MissingLink

The MissingLink feature enables the two ports on the media converter to pass the 'Link' status of their connections to each other. When the media converter detects a loss of connection to an end-node, the media converter shuts down the connection to the other port, thus notifying the end-node that the connection has been lost.

## Technical Specifications

### Status Indicators

#### Front Panel

Power	Indicates power is applied to the converter
Link (2)	Indicates a valid receive link exists
Activity (2)	Indicates TX/RX on the port
FDX	Indicates full-duplex operation
ML	Indicates MissingLink enabled

#### Switches

ML - Link Test	Enable MissingLink
A/N	Enable auto-negotiation

### Packet Transmission Characteristics

Round trip delay	0.4 μs maximum
Bit Error Rate (BER)	<10 <sup>-12</sup>

### Twisted Pair Interface

	Min.	Typical	Max.
UTP differential			
Output voltage	950mv	980mv	1050mv
Overshoot voltage		4%	5%
Single amplitude			
Symmetry	0.98	1.0062	1.02
Rise and fall time			
Rise	3.0ns	4.6ns	5.0ns
Fall	3.0ns	4.2ns	5.0ns
Rise and fall time			
Symmetry	0.4ns	0.5ns	

## Power Characteristics

External power supply	120V AC, 60Hz (US model) 240V AC, 50Hz (European models)
Input supply voltage	12vDC
Max current	500mA
Power consumption	6W

## Environmental Specifications

Operating temp.	0°C to 40°C (32°F to 104°F)
Storage temp.	-20°C to 80°C
Relative humidity	5% to 95% non-condensing
Operating altitude	0 to 10,000 feet

RoHS compliant

## Physical Characteristics

Dimensions: (W x D x H)	10.5cm x 9.5cm x 2.5cm (4.12" x 3.75" x 1.0")
Weight:	294g (10.4oz)

## Electrical/Mechanical Approvals

EMC	FCC Class B
Safety compliant	UL-Cul, CSA/CSA, NRTL, TUV, CE compliant

## Ordering Information

AT-MC101XL-xx  
UTP to multi-mode ST (2km) fiber

AT-MC102XL-xx  
UTP to multi-mode SC (2km) fiber

AT-MC103XL-xx  
UTP to single-mode SC (15km) fiber

AT-MC103LH-xx  
UTP to single-mode long-haul SC (40km) fiber

Where xx = 10 (US power adapter)  
20 (European power adapter)  
30 (UK power adapter)  
40 (Australian power adapter)

## Associated Products

AT-TRAY1  
Rack-mounting tray for one media converter

AT-TRAY4  
Rack-mounting tray for up to four media converters

AT-WLMT  
Wall-mount bracket for one media converter

AT-MCR12  
12 slot AC/DC powered chassis for media converters

USA Headquarters | 19800 North Creek Parkway | Suite 100 | Bothell | WA 98011 | USA | T: +1 800 424 4284 | F: +1 425 481 3895  
European Headquarters | Via Motta 24 | 6830 Chiasso | Switzerland | T: +41 91 69769.00 | F: +41 91 69769.11  
Asia-Pacific Headquarters | 11 Tai Seng Link | Singapore | 534182 | T: +65 6383 3832 | F: +65 6383 3830

[www.alliedtelesis.com](http://www.alliedtelesis.com)

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